

REMARKS/ARGUMENT

Claim 1-9 stand allowed.

1) Claim 10 stands rejected under 35 U.S.C. 102(b) as being anticipated by McCune, Jr. et al. (5,952,895). Applicant has amended Claim 10 and believes it is allowable in its amended form, as set forth below.

In order that the rejection of Claim 10 be sustainable, it is fundamental that “each and every element as set forth in the claim be found, either expressly or inherently described, in a single prior art reference.” Verdegall Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also, Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), where the court states, “The identical invention must be shown in as complete detail as is contained in the ... claim”.

Furthermore, “all words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Independent Claim 10, as amended, requires and positively recites, a digital modulator for use in a radio frequency transmitter, comprising: “a phase-lock-loop (PLL) loop producing as an output signal a modulated RF signal”, “a phase demodulator having an input port for **receiving unmodified the modulated RF signal** and having an output port for providing a phase information signal” and “a comparator having a first input port for receiving the **unmodified modulated RF signal** and having an output port for providing a phase information signal.”

In contrast, the McCune reference shows in Figure 4 that its modulated RF signal is passed through down converter 420 (which is coupled also to a synthesizer (SYNTH.)

and the result is output to a low pass filter (LPF) prior to being submitted to an input of phase demodulator 419. As a result, McCune fails to teach or suggest, “a phase demodulator having an input port for **receiving unmodified the modulated RF signal** and having an output port for providing a phase information signal” and “a comparator having a first input port for receiving the **unmodified modulated RF signal** and having an output port for providing a phase information signal”, as required by Claim 10.

New Claims 11-14 depend (directly or indirectly) from allowable Claim 1 and are therefore similarly allowable.

New independent Claim 15 requires and positively recites, a radio frequency (RF) modulator comprising: “a phase-lock-loop (PLL) loop including a loop filter and receiving as an input signal a modulation signal and producing as an output signal a modulated RF signal”, “circuitry for producing an injection modulation signal”, “circuitry for injecting the injection modulation signal into the phase lock loop **at a point before the loop filter**” and “control circuitry, coupled to the circuitry for injection the injection modulation signal, for controlling the amplitude of the injection modulation signal”.

In contrast, the McCune reference shows on Figure 4 that its injection modulation signal is injected AFTER the loop filter. As a result, new independent Claim 15 stands allowable.

New Claims 16 & 17 depend (directly or indirectly) from Claim 15 and are therefore similarly allowable.

New independent Claim 18 requires and positively recites, a method of producing phase shifts in a modulated RF signal, comprising the steps of: “producing an injection modulation signal”, “injecting the injection modulation signal into a phase lock loop

having a loop filter at a point **before the loop filter**” and “producing a modulated RF signal as an output from the phase lock loop”.

In contrast, the McCune reference shows on Figure 4 that its injection modulation signal is injected AFTER the loop filter. As a result, new independent Claim 18 stands allowable.

New Claims 19 & 20 depend (directly or indirectly) from Claim 18 and are therefore similarly allowable.

Claims 1-9 stand allowed. Claim 10, as amended, and new Claim 11-20 stand allowable over the references of record. Applicants respectfully request allowance of the application as the earliest possible date.

Respectfully submitted,



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